**Examples for Systems Modelling**

\* Use “systems diagrams template” design to begin learning how to model systems

**Steps:**

1. Brainstorm the inputs, processes and outputs in lists
2. Draw a systems diagram as shown for **Example:** ***Making a cup of hot chocolate***
3. Give your systems diagram a descriptive title

Input(s)

Output(s)

**Example: *Making a cup of hot chocolate***

|  |  |  |
| --- | --- | --- |
| **Input(s)** | **Process(es)** | **Output(s)** |
| **Resources:**  Cup  Spoon  Kettle  Water  Electrical energy  Human labour  **Materials:**  Cocoa powder  Milk  Sugar | **Boiling** (of the water)  **Stirring** (of contents of cup) | A yummy cup of hot chocolate to drink |

**Systems Model Diagram 1: Making a cup of hot chocolate**

**Resources**

Cup

Spoon

Kettle

Electrical energy

Human labour

**Materials**

Water

Cocoa powder

Milk

Sugar

A cup of hot chocolate to drink

**You try #2**

Put the information given in this table into a systems model diagram

**#2: *Photosynthesis***

|  |  |  |
| --- | --- | --- |
| **Input(s)** | **Process(es)** | **Output(s)** |
| Plant  Soil  Air  Carbon dioxide  Water | **Photosynthesis** | Oxygen  Water  Glucose |

**Systems Model Diagram 2: Photosynthesis**

**\* Note** – Systems diagrams are not rigid and you can be creative with the way you present them. They should show the 3 main components (inputs, processes and outputs), with boxes (for inputs and outputs), circles (for processes) and arrows (to show the direction of flow of material or flow of energy). In the Making a cup of hot chocolate example, the inputs were classified as Resources and Materials as a way to make it clearer to the reader (like a recipe they could follow). In the Photosynthesis example, the inputs could have also been classified. Processes and outputs can also be classified sometimes. Use classifications when it will help make it clear to the reader.

**You try #3**

1. Brainstorm and list the input(s), process(es) and output(s) for **Catching a fish**
2. Draw a systems diagram for **Catching a fish**

\* Discuss your systems diagram with your classmates and the whole class to work out what might be the best systems diagram for Catching a fish

**#3: *Catching a fish***

|  |  |  |
| --- | --- | --- |
| **Input(s)** | **Process(es)** | **Output(s)** |
|  |  |  |

**Systems Model Diagram #3:**

**You try #4:** This is your choice of concept/process to draw a systems model diagram for…

|  |  |  |
| --- | --- | --- |
| **Input(s)** | **Process(es)** | **Output(s)** |
|  |  |  |